

Water-Data Report 2008

05060000 MAPLE RIVER NEAR MAPLETON, ND

Devils Lake-Sheyenne Basin
Maple Subbasin

LOCATION.--Lat 46°51'58", long 97°06'22" referenced to North American Datum of 1927, in SW ¼ NE ¼ sec.10, T.139 N., R.51 W., Cass County, ND, Hydrologic Unit 09020205, on right bank upstream of county bridge and 3 mi southwest of Mapleton.

DRAINAGE AREA.--1,450 mi² of which 70 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--DAILY DISCHARGE--October 1958 to September 1975, March 1, 2001, to current year (seasonal). Record not equivalent at extreme high flows to station 05060100 that was operated from April 1944 to September 1958 (7 mi downstream) published as "at Mapleton" and March 1995 to present (9 mi downstream) published as "below Mapleton".

PERIOD OF RECORD.--DAILY GAGE HEIGHT--March 2000 to current year (seasonal records only).

GAGE.--Water-stage recorder and rubble masonry dam. Datum of gage is 886.43 ft above National Geodetic Vertical Datum of 1929 (survey by North Dakota State Water Commission, 2004). Prior to October 1, 2001, at datum 7.10 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s, June 13, gage height, 18.98 ft; minimum daily discharge, 3.8 ft³/s, March 8.

05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	e4.2	e250	82	27	142	22	e7.5
2	---	---	---	---	---	e4.0	e265	80	27	158	21	e33
3	---	---	---	---	---	e4.0	e260	92	32	167	21	e31
4	---	---	---	---	---	e4.0	e245	95	35	152	20	e30
5	---	---	---	---	---	e4.0	e250	84	33	130	18	e27
6	---	---	---	---	---	e4.0	e270	72	295	108	17	e22
7	---	---	---	---	---	e3.9	e270	67	784	93	19	e18
8	---	---	---	---	---	e3.8	e250	63	412	91	21	e15
9	---	---	---	---	---	e4.0	e220	58	223	80	24	e14
10	---	---	---	---	---	e5.3	189	49	189	119	22	e14
11	---	---	---	---	---	e7.0	170	50	522	168	21	159
12	---	---	---	---	---	e6.8	156	46	1,730	153	38	295
13	---	---	---	---	---	e6.1	156	40	1,910	142	35	298
14	---	---	---	---	---	e5.8	159	41	1,560	124	33	250
15	---	---	---	---	---	e5.4	163	36	1,150	114	27	193
16	---	---	---	---	---	e5.2	155	34	835	121	22	149
17	---	---	---	---	---	e5.1	142	30	679	107	18	117
18	---	---	---	---	---	e5.5	134	29	600	90	14	84
19	---	---	---	---	---	e9.0	126	30	558	80	12	59
20	---	---	---	---	---	e18	124	26	515	69	11	47
21	---	---	---	---	---	e30	123	32	464	63	e8.9	47
22	---	---	---	---	---	e50	116	30	408	55	e7.6	42
23	---	---	---	---	---	e59	101	26	333	52	e6.8	33
24	---	---	---	---	---	e63	97	25	235	47	e6.1	30
25	---	---	---	---	---	e68	92	24	237	40	e5.7	28
26	---	---	---	---	---	e74	97	19	474	36	e5.4	27
27	---	---	---	---	---	e85	90	21	345	32	e5.3	23
28	---	---	---	---	---	e100	84	22	213	30	e5.2	22
29	---	---	---	---	---	e130	87	21	172	27	e5.2	20
30	---	---	---	---	---	e170	89	29	151	25	e5.5	18
31	---	---	---	---	---	e230	---	27	---	24	e5.9	---
Total	---	---	---	---	---	1,174.1	4,930	1,380	15,148	2,839	503.6	2,152.5
Mean	---	---	---	---	---	37.9	164	44.5	505	91.6	16.2	71.8
Max	---	---	---	---	---	230	270	95	1,910	168	38	298
Min	---	---	---	---	---	3.8	84	19	27	24	5.2	7.5
Ac-ft	---	---	---	---	---	2,330	9,780	2,740	30,050	5,630	999	4,270

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	12.3	11.0	4.22	1.24	0.72	144	511	143	204	207	33.2	22.1
Max	49.1	36.2	12.2	4.30	4.85	1,040	1,708	428	1,256	2,375	267	71.8
(WY)	(1972)	(1972)	(1963)	(1973)	(1973)	(1966)	(1969)	(1970)	(2005)	(1975)	(1962)	(2008)
Min	0.00	0.00	0.00	0.00	0.00	0.00	13.9	8.35	1.71	0.00	0.00	0.00
(WY)	(1961)	(1961)	(1961)	(1959)	(1959)	(1969)	(1959)	(1959)	(1961)	(1961)	(1960)	(1959)

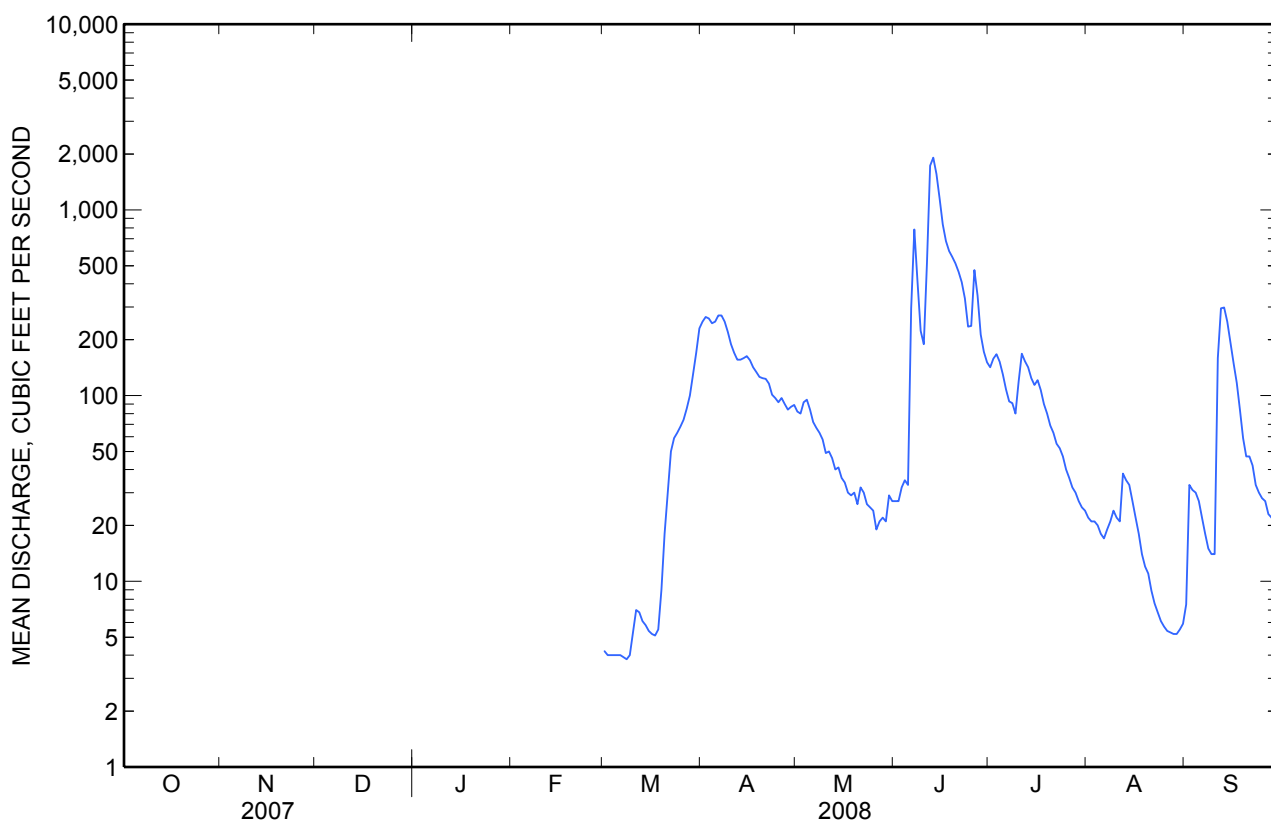
05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

SUMMARY STATISTICS

Water Years 1958 - 2008		
Annual mean	^a 5.8	
Highest annual mean	^a 374	1975
Lowest annual mean	^a 5.98	1961
Highest daily mean	11,300	Jul 2, 1975
Lowest daily mean	0.00	Dec 13, 1958
Annual seven-day minimum	0.00	Dec 13, 1958
Maximum peak flow	^b 11,600	Jul 2, 1975
Maximum peak stage	23.43	Apr 1, 2006
Annual runoff (ac-ft)	^a 69,430	
10 percent exceeds	149	
50 percent exceeds	7.4	
90 percent exceeds	0.00	

^a Based on complete water years only (1959-75).

^b Gage height, 22.13 ft, present datum.

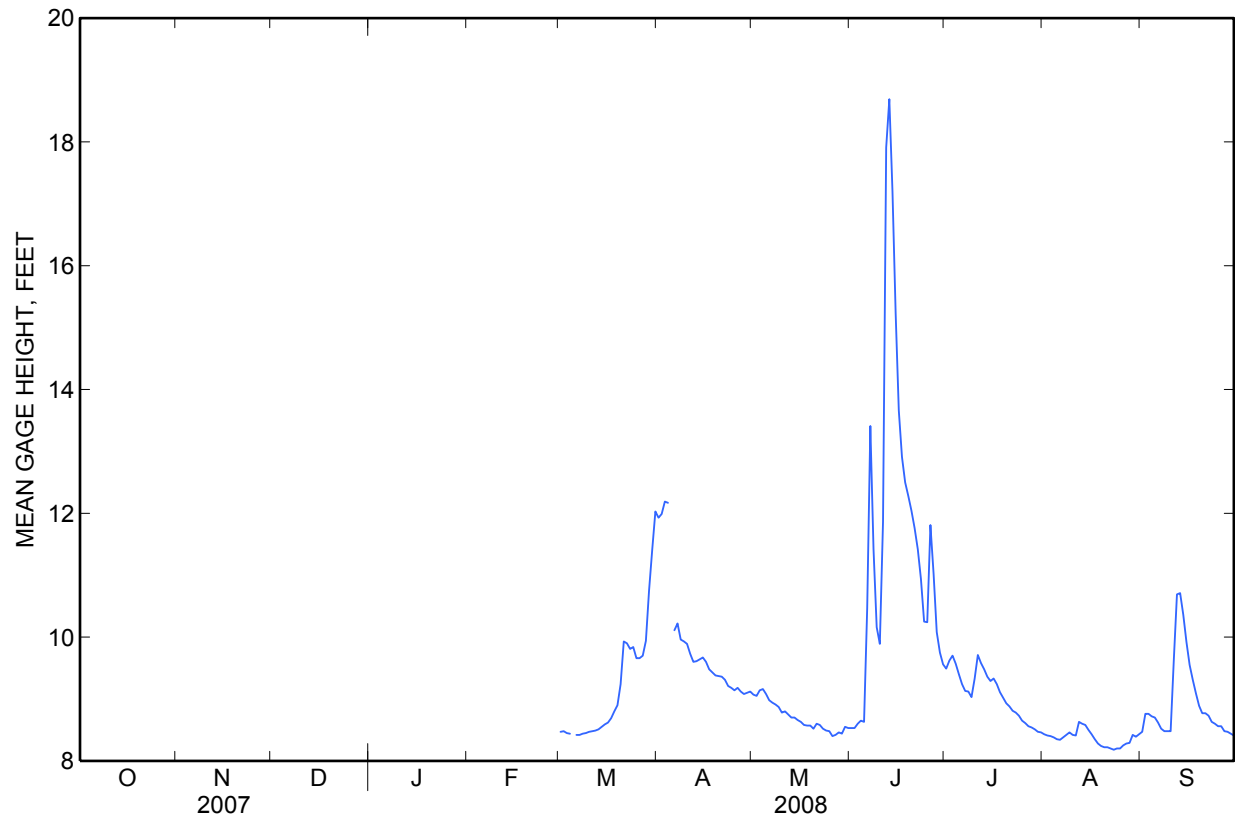


05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	8.47	11.93	9.07	8.53	9.49	8.43	8.47
2	---	---	---	---	---	8.48	11.99	9.05	8.53	9.62	8.41	8.76
3	---	---	---	---	---	8.45	12.19	9.14	8.60	9.70	8.40	8.76
4	---	---	---	---	---	8.44	12.17	9.16	8.65	9.57	8.38	8.72
5	---	---	---	---	---	---	---	9.08	8.63	9.40	8.35	8.70
6	---	---	---	---	---	8.42	10.11	8.98	10.47	9.24	8.34	8.62
7	---	---	---	---	---	8.42	10.22	8.94	13.41	9.13	8.38	8.52
8	---	---	---	---	---	8.44	9.96	8.91	11.42	9.12	8.42	8.48
9	---	---	---	---	---	8.45	9.93	8.87	10.16	9.03	8.46	8.48
10	---	---	---	---	---	8.47	9.89	8.78	9.89	9.33	8.42	8.48
11	---	---	---	---	---	8.48	9.73	8.80	11.86	9.71	8.41	9.63
12	---	---	---	---	---	8.49	9.60	8.75	17.91	9.58	8.63	10.69
13	---	---	---	---	---	8.51	9.61	8.70	18.69	9.48	8.60	10.71
14	---	---	---	---	---	8.55	9.64	8.70	17.20	9.36	8.58	10.36
15	---	---	---	---	---	8.59	9.67	8.66	15.23	9.29	8.50	9.92
16	---	---	---	---	---	8.62	9.60	8.63	13.66	9.33	8.43	9.55
17	---	---	---	---	---	8.69	9.48	8.58	12.91	9.24	8.35	9.31
18	---	---	---	---	---	8.80	9.43	8.57	12.50	9.11	8.28	9.09
19	---	---	---	---	---	8.90	9.38	8.57	12.28	9.02	8.24	8.89
20	---	---	---	---	---	9.24	9.37	8.52	12.04	8.93	8.22	8.77
21	---	---	---	---	---	9.93	9.36	8.60	11.76	8.88	8.22	8.77
22	---	---	---	---	---	9.90	9.31	8.58	11.42	8.81	8.20	8.73
23	---	---	---	---	---	9.81	9.21	8.52	10.94	8.78	8.18	8.63
24	---	---	---	---	---	9.84	9.18	8.49	10.25	8.73	8.20	8.60
25	---	---	---	---	---	9.66	9.14	8.48	10.24	8.65	8.20	8.56
26	---	---	---	---	---	9.66	9.18	8.40	11.81	8.61	8.25	8.56
27	---	---	---	---	---	9.70	9.12	8.42	11.02	8.56	8.28	8.48
28	---	---	---	---	---	9.94	9.08	8.46	10.08	8.54	8.29	8.47
29	---	---	---	---	---	10.75	9.10	8.44	9.75	8.51	8.42	8.44
30	---	---	---	---	---	11.41	9.12	8.55	9.56	8.47	8.39	8.41
31	---	---	---	---	---	12.03	---	8.53	---	8.46	8.43	---
Mean	---	---	---	---	---	---	---	8.71	11.65	9.09	8.36	8.95
Max	---	---	---	---	---	---	---	9.16	18.69	9.71	8.63	10.71
Min	---	---	---	---	---	---	---	8.40	8.53	8.46	8.18	8.41

05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued



05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD:--April 2001 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 3

[Remark codes: <, less than.]

Date	Time	Instantaneous discharge, ft ³ /s (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specific conductance, wat unfltrd lab, μ S/cm 25 degC (90095)	Specific conductance, wat unfltrd lab, μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
Apr 17...	1410	141	8.6	8.0	1,090	1,060	17.2	10.3	470	106	50.1	11.6	1.5
Jul 30...	1140	25	8.4	8.4	1,430	1,430	22.9	25.7	600	133	66.0	10.2	1.6

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 3

[Remark codes: <, less than.]

Date	Sodium fraction of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO ₃ (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO ₂ (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, dissolved, tons/d (70302)	Aluminum, water, fltrd, μ g/L (01106)	Antimony, water, fltrd, μ g/L (01095)	Arsenic, water, fltrd, μ g/L (01000)	Barium, water, fltrd, μ g/L (01005)
Apr 17...	25	73.3	196	40.7	.23	18.5	319	676	281	<50	<1.00	5.3	40
Jul 30...	25	90.9	304	46.2	.27	21.3	449	887	66.9	<50	<1.00	10.5	62

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 3

[Remark codes: <, less than.]

Date	Beryllium, water, fltrd, μ g/L (01010)	Boron, water, fltrd, μ g/L (01020)	Cadmium, water, fltrd, μ g/L (01025)	Chromium, water, fltrd, μ g/L (01030)	Copper, water, fltrd, μ g/L (01040)	Iron, water, fltrd, μ g/L (01046)	Lead, water, fltrd, μ g/L (01049)	Manganese, water, fltrd, μ g/L (01056)	Nickel, water, fltrd, μ g/L (01065)	Selenium, water, fltrd, μ g/L (01145)	Silver, water, fltrd, μ g/L (01075)	Thallium, water, fltrd, μ g/L (01057)	Zinc, water, fltrd, μ g/L (01090)
Apr 17...	<1.00	111	<1.00	1.5	1.8	<50	<1.00	56.0	4.3	2.0	<1.0	<1.00	1.1
Jul 30...	<1.00	243	<1.00	<1.0	3.4	<50	<1.00	29.0	9.2	1.7	<1.0	<1.00	1.3